

Title: Breast-fed Low Birth Weight Premature Infants: A Description of
Nutritional Intake in the First Six Months of Life.

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ABSTRACT

This is a secondary analysis of a larger project entitled "Breast-feeding Services for LBW Infants- Outcomes and Costs" (L. Brown, RN, Ph.D., Principal Investigator), funded by NINR at NIH, (NR 03881). The larger project was a randomized clinical trial, of women planning to breast-feed their LBW infant. The control group received routine breast-feeding care and an intervention group received a structured program of breast-feeding services provided by an advanced practice nurse.

Healthy premature LBW infants from the control group were selected as subjects for this secondary analysis. One question of this secondary analysis was to describe the nutrition of healthy premature LBW infants over time. A longitudinal prospective descriptive design was implemented collecting data from the same group of babies from birth to six month corrected age.

Fifty infants from the larger study fit the study criteria of healthy breast-feeding LBW premature infants. Nutritional intakes of these infants were described.

Breast-fed Low Birth Weight Premature Infants: A Description of Nutritional Intake in the First Six Months of Life.

Introduction:

Caring for low birth weight (LBW) premature infants has remained an enormous challenge to health care professionals during the last three decades. The struggle to preserve these precious lives impacts nursing as well as the entire community

In 2003 to 2004, over eight percent of the pregnancies in the United States, resulted in the delivery of *low birth weight* babies. The percentage of infants born LBW has risen 16 percent since 1990. The rate of *preterm birth infants* (delivered at less than 37 weeks gestation) is 12.5% or one of every 8 infants. One half million infants were born preterm in 2004 born in the United States (1). The survival, growth, and development of these infants is precarious and accompanied by significant morbidity. In 2002, LBW and prematurity was the second leading cause of death for all infants, accounting for 16.6% of total infant mortality. More recently in the period 1990-2001, the Infant Mortality has been 6.8 per 1,000 (2).

LBW premature infants exhibit a broad range of health problems, including growth and developmental delays, learning disabilities, poor postnatal growth, cognitive and behavior problems, cerebral palsy, and poor performance on developmental measures as compared to the performances of normal term birth weight infants (7) (8) (9) (10) (11) (12) (13) (14) (15) (16). These infants present with a wide variety of nutritional, growth, and developmental issues during the course of their neonatal stabilization to their infancy. The nutritional, growth, and developmental issues continue well into the first year of life. The American Academy of Pediatrics (AAP) Committee on

Nutrition (17) (18) recommends breast-feeding as the optimal content and method of infant feeding for LBW premature infants in the first year of life. The AAP's position statement is based on a substantial body of research which indicates numerous nutritional, immunologic, and physiological benefits gained by those LBW infants who receive their own mothers' milk (19) (20) (21) (22) (23) (24) (25) (26) (26).

Despite the well known benefits of breast-feeding, the rate of breast-feeding has fluctuated over time in the United States. After World War II, there was a large decrease in the rate of breast-feeding, and by 1972, only 22% of women breast-fed (27). In 1975, the breast-feeding rate began to increase, and by 1984 the breast-feeding rate was up to 59.7% (28). National statistics indicated that the rate declined again between 1982 and 1989 (29). Once again, in 1995, a resurgence of breast-feeding occurred with 60% of new mothers initiating breast-feedings and 20% continuing until six months postpartum (30).

The National Immunization Survey (NIS) conducted in all 50 states was compiled by the Centers for Disease Control (CDC)'s National Center for Health Statistics. This survey provides estimates for the initiation, duration, and exclusivity of breastfeeding for the overall population. In 2005, only five states (California, Hawaii, Oregon, Vermont and Washington) achieved all of the breastfeeding objectives of *Healthy People 2010*. The *Healthy People 2010* objective was for 75% of mothers to initiate breastfeeding; this was achieved in 21 states. Of these 21 states, five states had 50% of mothers breast-feeding their children at 6 months of age and 11 states had 25% of mothers breast-feeding their children at 12 months of age respectively (31). In LBW infants, only about one-third of the mothers initiate breast-feeding. Fewer than half of these mothers

Comment [p1]: I'm curious, is this provision of breastmilk or breastfeeding?

sustain breast-feeding efforts until their LBW infants are discharged from the hospital (32) (33). The duration of breastfeeding for premature infants varies from 2 to 6 months and is confounded by the range in severity of prematurity and the definition of breast-feeding. Difficulties with breast-feeding may be due to numerous problems that are unique to breast-feeding LBW infants (34) (35).

The feeding of non-milk food substances following discharge is an often-neglected issue of clinical importance for LBW premature infants. Clinical reports monitoring infant nutrition and growth in this population indicate that many parents and primary care-givers provide their infants with a wide variety of non-milk food substances during infancy and that this may in turn impact growth and development (36) . Dewey (1994, 1995) studied introduction of complimentary foods in term infants (37) (38).

Research study:

A secondary analysis of a larger project entitled "Breast-feeding Services for LBW Infants-Outcomes and Costs" (L. Brown, RN, Ph.D., Principal Investigator), funded by the National Institute of Nursing research at the National Institute of Health, (NR 03881) was employed to examine the nutrition of *healthy LBW premature* infants and the impact on their growth and development. The primary study included 220 mothers in a randomized clinical trial in which the control group received routine breast-feeding care and an intervention group received a structured program of breast-feeding services provided by an advanced practice nurse. Both groups (control and intervention) were comprised of women planning to breast-feed their LBW infant. This secondary analysis examined the population from the *control group* in the primary study and implemented a longitudinal prospective descriptive design measuring the

same group of babies from birth to six months post-corrected age (PCA) at each monthly interval. Only 50 of the infants from the larger study's control group fit this study's criteria of *healthy LBW premature*. This sample allowed for a homogeneous group with data that adequately represented the LBW premature breast-feeding population and which captured changes in infant breast-feeding and human milk intake over time.

One of three research questions were examined with one focused on the nutritional question of intake of breast-fed LBW premature infants at the corrected gestational ages of term, one, two, three, four, five, and six months. LBW premature infants of multiple gestation of three or greater and those with cranio-facial anomalies were not enrolled in the larger study. Also eliminated were LBW premature infants who have neurologic, cardiac, respiratory, or gastrointestinal system sequelae or disease may have an increase in metabolic rate (39) (40) (41), inability to suck and swallow (42) or have problems with enteral nutrition absorption that would result in a decrease in their ability to breast-feed and ultimately their growth and development (43). Infants who manifested any of these subsequent abnormalities were also excluded from this secondary analysis, as their growth and development may be affected by their abnormalities.

Gestational age was categorized for analysis in the population from the least mature to the most mature. Three levels of gestational age were defined as Level 1 = {28 to 31 weeks (\underline{n} = 13)}, Level 2 = {32 to 34 weeks (\underline{n} = 16)}, Level 3 = {35 to 36 weeks (\underline{n} = 21)}.(**See Table 1**). Breast-feeding was described by levels of infant feeding as defined by the Labbock and Krasovec (1990) categories (44). (**See Table 2**)

Ultimately, two levels of breast-feeding were used, breast-fed and non breast-fed, for analysis of the other research questions examined. The *breast-feeding group* included all levels of infant feeding described by the Labbock and Krasovec (1990) categories (44). The *non breast-feeding group* included all remaining participants. Since the number of infants in each group, breast-fed and non-breast-fed, changed over time, “Definition of Breast-feeding, Interagency Group for Action on Breast-feeding Categories” was used to describe the feedings (44). Categorical data was described and coded in each breast-feeding category. The nutritional intake was formatted on Microsoft Access for each of the 50 participants from birth to six months PCA. Frequency and types of human milk, formula, cereals, water, juice, baby fruits and vegetables, table food, and snacks were categorized. Absolute numbers and percentages of infants receiving non-human milk food substance at each time point were also described.

The infants served as their own controls. A priori power was assessed for the smallest interval level comparisons, which were the post-hoc, univariate contrast. Specifically, given a total sample size of 50 for the three gestational age groups, a two tailed $p = < .05$, and a large, expected effect size (i.e., $f = .60$, as per Cohen, 1990); a priori power was .69 for the gestational comparisons .68 for the two breastfeeding groups(45). The Institutional Review Board at both an eastern research hospital and at an eastern university gave approval for the study. Infants were enrolled at birth, as the neonates in the study were admitted either to the Transitional Care Nursery or to the Intensive Care Nursery at the eastern research hospital.

Nutritional Intake

A nutritional assessment recall for the last 24 hours was recorded by the researcher on the Brown & Zukowsky's Nutritional Intake of Low Birth Weight Premature Infant 24-hour Recall at the monthly visit. The researcher asked the major caretaker questions regarding the infant's nutritional intake using open-ended questions to obtain data, which included questions about their infant's usual nutritional intake. *What are you feeding your baby now? What is the first thing you gave your baby to eat today? How much are you giving your baby? How often?* Validity of this data was supported by obtaining specific information about amounts (ounces, cups, jars, etc.) and by asking mothers to supply information about intake during the past 24 hours.

If the mothers were able and the infant was well enough, the neonates were breast-fed or given enteral nutrition in the form of expressed human milk, formula, or both on the day of their birth. The mean gestational age was 33.4 weeks gestation (SD = 2.3), with the majority (58%) being less than 35 weeks gestation (n 29). The birth mean weight was 1,929 grams (SD = 412.69), and the most frequently occurring weight was 1,555 grams. Discharge weights ranged from 1,750 grams to 2,500 grams, with a mean discharge weight of 2,037 grams (SD = 185.57), and the most frequently occurring discharge weight was 1,810 grams.

Results:

Mothers sample:

The maternal sample age range was from 14 - 44 years of age, 31.4 years old (SD = 6.9) (**See Table 3.**) Twenty-seven mothers were Caucasian, 20 were African American and three were Hispanic. A majority of these women, forty-seven, had a

history of preterm pregnancies: 29 of the mothers had one preterm pregnancy, 17 had two preterm pregnancies, and one had three preterm pregnancies.

Thirty-seven of the mothers were married, one mother was divorced, and 12 were single. Half of the mothers were employed full time and 12 were employed part time. The remaining mothers were not employed, but were full time caretakers of their infants. The education levels of the mothers varied across the spectrum, with the majority finishing high school. One was a student in the public school system and three mothers were returning to high school to finish. Five mothers had finished high school, 16 finished one to three years of college, 14 graduated from college and 11 mothers had graduate degrees.

Income also varied among the families of the infants. The majority of the mothers and infants lived in a family that had an income greater than \$35,000 per year. Thirty eight percent of the families had an income that was greater than \$75,000 per year. Twenty percent had an income between \$50,000 - \$74,999 per year. Thirty percent of the families' income was below \$35,000 per year. Eight percent had an income ranging from \$30,000 to \$34,000; 6% \$25,000 to \$29,000; six percent between \$20,000 to \$24,999; two percent between \$15,000 to \$19,999; two percent between \$10,000 to \$14,999; and six percent less than \$9,999. In a related issue, 74% of the mothers had private insurance, and 26% had public insurance.

Breast-feeding and Human milk intake:

The post conceptual accounting of infants who received human milk over time was 35 at 40 weeks PCA-term, 30 at one month PCA, 27 at two months PCA, 25 at three months PCA, 22 at four months PCA, 20 at five months PCA, and 13 at six

months PCA (**See Table 4 & Table 5**). There were only 17 (34%) babies feeding “full” breast-feeding at 40 weeks PCA-term and five infants at 3 and 4 months PCA. Over time, the majority of human milk fed to the LBW preterm population was seen as “partial: high, medium, and low” breast-feeding.

The “partially high, medium and low” breast-feeding infants were supplemented with formula. As shown in Tables 1, the younger infant in (28-34 weeks gestation) received less human milk and more formula from 40 weeks PCA-term to six months PCA. The more mature infant at (35 to < 37 weeks gestation) consistently fed more human milk over time (from fifteen infants at 40 weeks PCA-term to nine at six months PCA).

Volume and method of how the infants receive human milk over time also varied. At one month, PCA 30 of the infants received human milk, with 13 of those infants who were in the “full” breast-feeding category. These 13 infants can be further described as 4 infants who were “full breast-feeding” at the breast, 4 infants who were “full breast-feeding” fed by expressed human milk, and 5 infants who were fed at breast and with expressed human milk. The frequency of feeding human milk at breast ranged from 4 - 9 times a day. This pattern of at breast and expressed human milk continued in the full breast feeding category, until 5 months PCA with the same frequency of feeding.

Supplemental feeding

Formula initially was given to the infants when they were receiving human milk at birth due to lack of mothers milk volume, formula continued to supplement or be exclusively given to infants over time. The brands of formula varied and even changed from month to month in some visits. The types were: Enfamil® with iron, Isomil®,

Lactofree[®], Neosure[®], Prosobe[®], and Similac[®] with iron, Nutramogen[®], and Carnation over till 6 months PCA.

The introduction of juice first occurred at 1 month PCA to two infants who were *exclusively fed formula*. Apple juice was initially the type given, 2 ounces twice a day. By three months, PCA 11 infants were supplemented with juice: two of these infants were fed at breast, and 10 infants were fed formula exclusively. A variety of juices were noted at this time, such as apple, pear, white grape, prune, and cherry, given 1 - 4 four times a day, 1 - 5 ounces per feeding.

Eighteen infants supplemented with juice at 4 and 5 months PCA. Seven of these infants were fed human milk and were supplemented with formula and juice, while 11 infants were fed formula exclusively. One infant feeding formula exclusively, drank his juice from a cup. The remaining infants were fed their juice by bottle. Papaya juice was added to the variety of juices given at 5 months PCA. Thirty infants were receiving juice 6 month PCA.

Introduction to cereal:

Cereal was given to the infants early on (**See Table 6**). Two infants who were fed formulas exclusively at 40 weeks PCA-term were introduced to oatmeal or baby rice cereal. These babies were initially fed one teaspoon of cereal mixed with their formula two times a day administered by bottle. Four infants at one month PCA who were fed formula exclusively were eating cereal: one infant received oatmeal, and three infants were complimented with rice cereal. The cereal was mixed with formula and fed to the infants by bottle.

By two months PCA there were 14 infants who were exclusively fed formula were also eating with baby cereal. The introduction of a spoon occurred at this time to 4 infants who were fed cereal from a bowl, by spoon, while the remaining 10 infants were fed their cereal by bottle, mixed with formula. At three and four months, PCA there were 28 infants who were fed cereal: one infant who was introduced to cereal was receiving expressed *human milk*, and 10 received *human milk* with formula. The remaining infants were being fed formula exclusively. Ten infants were fed the cereal from a bowl by spoon, and the other 18 were fed the cereal mixed with formula in a bottle. Complimentary cereal feeding to the infants increase at five and six months PCA with 46 infant having cereal in their diet by six months PCA.

Other Baby food.

Other baby foods were also introduced early on to this population of infants. Two infants at one and two months PCA, who were formula fed, were introduced to *baby fruit*. The varieties of initial fruit varied from applesauce, banana, pears, and peaches. One infant was supplemented with fruit that was given in a bowl by spoon, four ounces, once a day. The other infant was given two ounces of fruit mixed with formula and given by bottle.

Thirteen infants were supplemented with baby fruit at three months PCA. One infant was fed expressed human milk, three infants were fed at breast and supplemented with expressed human milk and formula and nine infants were fed with formula exclusively. Two infants were fed fruit by bottle mixed with formula, and the others infants were given fruit given in a bowl by spoon. The number of infants at four months PCA receiving fruit were increased to 19 infants, with the same two infants given

fruit in a bottle of formula. At five months, there were 29 infants eating fruit and at six months, 46 were having fruit in their diet.

Vegetable introduction for the majority of the infants occurred at three months PCA also. Three of the infants fed formula were introduced to baby vegetables, with all three infants eating squash, peas, and green beans. Two of these infants were also fed carrots and sweet potatoes. One infant was fed vegetables mixed with formula by bottle, and the other two infants were fed vegetables from a bowl by spoon. Similarly, as with other solid food introduction, fifteen infants were given complimentary feedings of both yellow and green vegetables at four months PCA, 21 infants at five months PCA and 38 infants at six months PCA.

One infant, at one month PCA who was formula-fed exclusively was introduced to fruit, yellow and green baby vegetables, and baby dinners with meats. He was fed four ounces of baby fruit and vegetables, once a day, mixed with his formula and fed by bottle. He also was also fed infant baby meat dinners once a day. He was be fed chicken noodle, beef baby meat dinners, or both, and mixed with formula and given by bottle. He was introduced to table food, by spoon at two months PCA, as well as the baby food, and this pattern of feeding continue until five months PCA. No other infant in the study had a similar pattern of feeding.

Three infants who were fed formula were supplemented with baby *meat dinners* at five months PCA. The types of dinners were beef, chicken, ravioli, macaroni and cheese, turkey and rice, and beef and macaroni. All of the infants were fed four ounces of the dinners from a bowl by a spoon, one to two times a day.

Table food:

Four months PCA was the first time that *snacks* were given to an infant. One infant received a snack of pretzels and baby cookies, offered two times a day, and he attempted to feed himself. By five months PCA there were four infants fed snacks with Zwieback™ additionally given. Twelve infants at six month PCA were offered snacks. Two of these infants were fed human milk at the breast, and the other 10 were fed formula.

Two mothers supplemented their infants with *table food*, at 4 months PCA, but did not give their infant's fruit or vegetable baby food. One mother was kosher and fed her infant boiled pureed apples, pears, and peaches, approximately two ounces of each, once a day. The other mother gave her infant homemade soup with carrots, zucchini, and string beans, not every day, but "once in a while."

The frequency of initiation of table food to infants increased at five months PCA, as four infants total were offered table food. Two of the infants who received table foods were fed human milk; one fed at breast, and one fed at breast supplemented with expressed human milk. The Kosher family increased the variety of food by adding puréed vegetables this month both green and yellow. One mother fed table food that consisted of mashed potatoes, rice, carrots, green beans, peas, and bananas. One infant ate an egg one to two times a week.

At six months PCA, 21 infants were supplemented with table food. Six of these infants were fed human milk, and five infants were fed human milk with formula. All of the infants were fed at breast, in "token feeding" with one also receiving expressed human milk. No infant was sitting in a high chair. Twelve infants fed themselves: five with their fingers, three by spoon, and five with their fingers or a spoon.

Discussion:

The National Health Objectives for Healthy Peoples 2010 31 included two goals for breast-feeding: that 75% of mothers breast-feed their babies in the early postpartum period; and 50% of mothers continue to breast-feed until their babies are five to six months old. 31 During the early postpartum period in this LBW preterm sample at 40 weeks PCA, 70% of the infants received human milk and by six months PCA, only 26% of these infants were fed human milk in some quantity. The descriptive results demonstrated that the quantity of human milk feeding became less over time. The National Health Objectives Healthy People 2010 goals were not met from birth to six months PCA in this sample.

All of the mothers enrolled in the study were women planning to breast-feed the LBW premature infant. Yet their intentions were challenged from the beginning. The mothers abandoning exclusively human milk feeding early on were not explored in this study. Thirty-four percent of the mothers exclusively fed human milk at term, and only 2% continued to exclusively feed human milk at five months PCA. No mother exclusively fed human milk at six months PCA. The majority of human milk fed to the LBW preterm population was seen as “partial: high, medium, and low” breast-feeding.

An acceleration of introduction to solid foods was noted throughout the six-month PCA period. The use of supplemental and complementary feedings of cereal and vegetables occurred early in this study, in an assortment of ways. This introduction began as early as one month PCA. The introduction of supplementary nutritional intake was diverse by the foods fed and the period of time in which the foods were introduced.

The American Academy of Pediatrics and other child health organizations recommend human milk or formula as the preferred food for the first six months of life. Supplemental or complementary feeding of cereal and other solids should be introduced at six months of age (17) (18) (46) (47) (48). This recommendation is the standard for term infants, how and when complementary supplemental feeding should occur for the LBW population is not well described in the literature (46) (47). How did the families look at the infants: at their correct gestational age, or chronological age? This is one question that I started to raise as I was collecting the data and should warrant further investigation.

The premise of only feeding human milk for the first six months of life, should be prescribed, supported, and encouraged through six months PCA by pediatric care providers. All efforts for human milk feeding to continue to this frail population of infants through infancy to six month PCA is essential. The neonatal nurse's role in the mother infant dyad of human milk feeding should be embraced with a standard of care and appropriate interventions defined for these infants. These interventions could form the foundation for models of care that could be disseminated and implemented in the community.

Nurses can help mothers deal with these multifaceted challenges through interventions aimed to support the breast-feeding of these fragile infants. Human milk feeding should be approached as being equal to giving an appropriate antibiotic to treat an identified infection. Every effort should be made to prescribe and treat the LBW premature infant with human milk in order to ensure optimal nutrition and developmental outcome.

During daily NICU rounds, a paramount question the healthcare team should ask is when to start enteral feedings for the LBW premature infant. Once enteral nutrition is established, a second related and equally important question to be asked is: What is the tempo of growth that the LBW premature infant has exhibited over time? Feeding the newborn infant has traditionally been in the domain of nursing for many years. Over the last thirty years, medicine has looked to nursing to provide adequate nutrition for these frail infants. Much of the daily neonatal nursing interventions include feeding the infant and instructing the mother on how to feed her infant. Over the last ten years, nurses have explored aspects of the science of feeding these infants. Yet, the answers are still not clear, and the exploration of feeding human milk to the LBW premature infant should be further defined, developed, and ultimately disseminated as evidence-based breastfeeding models of care.

TABLES

Table 1:

Infants Receiving Human Milk by Gestational Age Groups

Gestational Age	Term	1	2	3	4	5	6
		PCA	PCA	PCA	PCA	PCA	PCA
28-31 weeks	9	8	8	7	5	5	2
Level							
32-34 weeks	11	7	5	5	5	4	2

Level 2							
35-37							
weeks	15	15	14	13	12	11	9
Level 3							

Table 2:**Breast-feeding Categories.**

Breast feeding Categories	Definition of Breast-feeding,
Level 1: <i>Full</i> breast-feeding:	Indicates an infant who is exclusively breast-feeding, no other liquid or solid is given to the infant.
Level 2: <i>Almost exclusive</i> breast-feeding:	Indicates vitamins, mineral, water, or juice given infrequently in addition to breast-feeding. This is an infant who receives more than one supplemental feeding per day.
Level 3: Partial <i>high</i> breast-feeding:	Indicates an infant whose primary milk and energy source is breast-feeding (more than 80% of all feedings per day are breast-feedings).
Level 4: Partial <i>medium</i> breast-feeding:	Indicates an infant who receives less than 80% but more than 20% of all feedings per day as breast-feeding.
Level 5: Partial <i>low</i> breast-feeding:	Indicates an infant who receives less than 20% of all feedings per day as breast-feeding.
Level 6: <i>Token</i> breast-feeding:	Indicates an infant whose milk and energy source is supplemental food. In this category, the breast

	is used primarily for infant or child comfort and consoling and not for major nutritive purposes.
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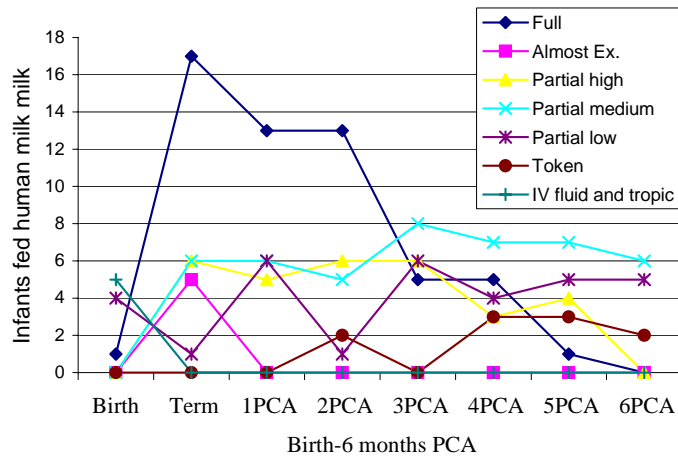
Adapted from the Definition of Breast-feeding, Interagency Group for Action on Breast-feeding Categories" (Lubbock & Krasovec, 1990).

Table 3:

Maternal Sample:

Mothers Number of Mothers:	$\underline{n} = 50$
Maternal age:	31.4 years old ($\underline{SD} = 6.9$) and ranged from 14 – 44 years.
Race:	Caucasian = 51 % ($\underline{n} = 27$). African American 40% ($\underline{n} = 20$) Hispanic 6% ($\underline{n} = 3$).
Married:	74% ($\underline{n} = 37$) married 2% ($\underline{n} = 1$) separated 24% ($\underline{n} = 12$) single.
Employed:	50% ($\underline{n} = 25$) employed full time 24% ($\underline{n} = 12$) employed part time 26% ($\underline{n} = 13$) not employed
Education:	2% ($\underline{n} = 1$) in high school 6% ($\underline{n} = 3$) were returning to finish high school. 10% ($\underline{n} = 5$) completed high school 32% ($\underline{n} = 16$) finished 1-3 years of college. 28% ($\underline{n} = 14$) graduated college.

	22% ($\underline{n} = 11$) had graduate degrees.
History of preterm deliveries:	94% ($\underline{n} = 47$) had a history of preterm 58% ($\underline{n} = 29$) 1 preterm pregnancy, 34% ($\underline{n} = 17$) 2 preterm pregnancies, 2% ($\underline{n} = 1$) 3 preterm pregnancies

Table 4:**Breast-feeding categories Birth to 6 months PCA.****Table 5:**

Number of Infants Birth to Six Months Post Corrected Age (PCA) Breast-feeding (BF) Categories

Category	Full	Almost	Partial	Partial	Partial	Token	Total	No
Months	BF	Exclusively	High	Medium	Low	BF		BF

PCA		BF	BF	BF	BF			
Birth	1	0	0	0	4	0	10*	40
							(20%)	(80%)
Term	17	5	6	6	1	0	35	15
							(70%)	(30%)
1 PCA	13	0	5	6	6	0	30	20
							(60%)	(40%)
2 PCA	10	3	6	5	1	2	27	23
							(54%)	(46%)
3 PCA	5	0	6	8	6	0	25	25
							(50%)	(50%)
4 PCA	5	0	3	7	4	3	22	28
							(44%)	(56%)
5 PCA	3	0	4	6	4	3	20	30
							(40%)	(60%)
6 PCA	0	0	0	6	5	2	13	37
							(26%)	(74%)

Note. * Five additional infants at birth were breast-feeding with IV fluid in place.

Table 6:

Number of Infants Fed Cereal & Types Term to 6 Months PCA

Age	Rice	Oatmeal	Rice & Oatmeal	Barley & Rice	Barley & Oatmeal	Total
Term	1	1	0	0	0	2
1 PCA	1	3	0	0	0	4

2 PCA	12	1	1	0	0	14
3 PCA	21	3	2	2	0	28
4 PCA	15	3	7	2	1	28
5 PCA	16	2	14	0	1	33
6 PCA	20	4	15	5	2	46
